MATERIAL SAFETY DATA SHEET

(Dimethomorph 50% WDG)

1. Chemical product/company identification

Chemical Identification:

Product Name: Dimethomorph
Chemical Name: (E, Z)-4-[3-(4-chlorophenyl)-3-(3,4-dimethoxyphenyl)-1-oxo-2-propenyl]-morpholine
Empirical Formula: C_{21}H_{22}ClNO_{4}
Molecular Weight: 387.9
CAS No.: 110488-70-5
CIPAC No.: 483

Chemical Structure:

[Chemical structure image]

Manufacture: Shandong Cynda Chemical Co., Ltd.
Address: Economic Development Area, Boxing County, Shandong, P. R. China

2. Composition/Information on Ingredients

Chemical Ingredients:

Active Ingredient:
Dimethomorph…………………………………………………………………………………50%min
Other……………………………………………………………………………………50%max
3. **Hazards Identification**
CAUTION! Keep out of reach of children. See product label and Directions for Use for additional precautionary statements. Do not breathe dust or spray mist. Do not get in eyes or on skin or clothing. Harmful if swallowed.

4. **Fire fighting measures**
Fire Extinguishing Media: Use water fog, foam, carbon dioxide, water (spray or fog), or dry chemical extinguishing media to extinguish fires.
Exposure Hazards: May emit carbon disulfide in a fire.
SPECIAL FIREFIGHTING PROCEDURES: Firefighters should be equipped with self-contained breathing apparatus and turnout gear. Decontaminate emergency personnel with soap and water before leaving the fire area.

5. **Health Hazard Data**
**First Aid Measures**
If swallowed: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to by a poison control center or doctor. Do not give anything to an unconscious person.
If on skin or on clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
If in eyes: Flush eyes with plenty of water. Call a physician if irritation persists. If inhaled: Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.
Note to physician: Treat symptomatically. No specific antidote.
Note: Have the product container or label with you when calling a poison control center or doctor or going for treatment.
6. Accidental release measures
In case of large-scale spillage of this product, avoid contact, isolate area and keep out animals and unprotected persons. For a small spill, wear appropriate protective clothing and personal protective equipment. Keep away from drains, surface and ground water, and soil. Shovel or sweep the spilled material into covered containers for proper disposal. If possible, reuse the material for its intended purpose.

7. Handling and storage
Handling: Avoid raising a dust cloud. Avoid contact with the eyes. Wash hands before eating, drinking, or smoking. After work, change out of work clothes and bathe or shower.
Storage: Store in a secure, well ventilated, separate area or warehouse, away from children, livestock, and food products. Store under cool and dry conditions! Not for use or storage in or around the home. Do not contaminate water, food, or feed by storage or disposal.

8. Exposure controls/ Personal protection
Exposure Control: Do not eat, smoke, or drink at the workplace.
Personal Protective Equipment: Pesticide Applicator & Workers must refer to the product label and Directions for Use attached to the product for Agricultural Use Requirements in accordance with the EPA Worker Protection Standard 40 CFR part 170.
Eye Protection: Chemical goggles or some other form of eye protection must be worn to prevent exposure to the eyes.
Skin Protection: Wear coveralls, boots and nitrile rubber or neoprene gloves. Rubber gloves should be washed with soap and water after each use. Do not wear the same gloves for other work. Replace gloves frequently. Avoid exposure to spray during application. Remove contaminated clothing and
wash before reuse. Shower at the end of the work day and change clothing.

RESPIRATORY PROTECTION: Avoid breathing dust and spray mist. Use dust mask (3M 8500 or equivalent).

9. Physical-chemical properties
Appearance: White columnar granula
Ph.: 4.0-7.0
Suspensibility: ≥80.0%
Finess: ≥98%
Wetting time: ≤ 120s
Solubility: in water is greater than 25 mg/l at 20°C.
Solvent Solubility: Acetone, Toluene, Hexane, Methanol and dichloromethane.
Melting Point: 125-149°C
Degradation point: 270-290°C
Relative density: 1.4 g/cm³ at 20°C

10. Stability and reactivity
STABILITY: Stable. Store at a cool well-ventilated area.
CONDITIONS TO AVOID: Store in original container in cool, dry, well-ventilated place away from ignition sources, heat or flame.
CHEMICAL INCOMPATIBILITY: Oxidizing agents.
HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of carbon and nitrogen; HCl
HAZARDOUS POLYMERIZATION: Does not occur.
CONDITIONS TO AVOID: Does not polymerize.
CORROSIVE TO METAL: No
OXIDIZER: No
11. Toxicological Information
Data for formulated product:
Rat (male), Oral LD50 =5000 mg/kg
Rat (female), Oral LD50 =5000 mg/kg
Rat (combined), Dermal LD50 > 2000 mg/kg
Rat, Inhalation LC50 (4 hr calculated) > 3.01 mg/L
Rabbit, Eye Irritation - slightly irritating
Rabbit, Skin Irritation - Non-irritating
Guinea pig, Dermal Sensitizer - Not a sensitizer

12. Ecological information
Persistence: Not readily biodegradable.
Appraisal: In standard laboratory tests, this formulation is very toxic to fish and aquatic invertebrates. Laboratory testing of a similar formulation of dimethomorph and mancozeb was very toxic to the algae species Selenastrum capricornutum. This product is harmless to honey bees by both oral and dermal administration.

13. Disposal considerations
WASTE DISPOSAL METHOD:
Pesticide wastes are acutely hazardous. Wastes resulting from this product may be disposed of on site or at an approved waste disposal facility. Improper disposal of excess pesticide, spray mix or rinsate is a violation of federal law. If these wastes cannot be disposed of according to label instructions, contact the state agency responsible for pesticide regulation or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.
CONTAINER DISPOSAL:
FOR PLASTIC CONTAINERS: Triple rinse (or equivalent) and add rinsate to the spray tank. Then offer for recycling or reconditioning, or puncture and dispose of in sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.
FOR BULK CONTAINERS: Reusable containers should be returned to the point of purchase for cleaning and refilling.
FOR MINIBULK CONTAINERS: Clean all tanks on an approved loading pad so rinsate can be collected and mixed into the spray solution or into a dedicated tank. Using a high pressure sprayer, rinse several times with small volumes of water to minimize rinsate.

14. Transport information

BILL OF LADING DESCRIPTION
Fungicides, agricultural, NOIBN
UN Number (Sea transport)  3077
IMO Marine Pollutant  Marine Pollutant
IMO LABEL: Class 9; Mark as: Marine Pollutant
IMO CLASS/DIVISION: 9

15. Regulatory information
Note: It is the responsibility of the waste generator to determine, prior to disposal whether any hazardous waste codes apply.
16. Other Information

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are presented in good faith and believed to be correct. This information applies to the product as such. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons on receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produce formulations containing this product, it is the recipients sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.